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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/804,683

**Applicant(s)**

NIETHAMMER, MATTHIAS

**Examiner**

PAUL FISHER

**Art Unit**

3689

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 July 2010.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 4-12 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1 and 4-12 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 16 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO/GS/US)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Amendment received on July 9, 2010 has been acknowledged. Claims 2-3 and 13-15 have been canceled. Claims 1 and 4-12 are currently pending and have been considered below.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1, 4, 8, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US 2003/0050792), in view of Lisa Fratt: "What's Up with Contrast Injectors?" (February 2003) hereafter Fratt, further in view of Fichtner et al. (US 6,360,362 B1) hereafter Fichtner, further in view of A. Alipour, R. R. Herge, and W.F. Heybruck, "Device and Method for Monitoring Computer" (May 1, 1999) hereafter Alipour.**

**As per claim 1**, Shiraishi discloses a medical system (Page 1, Paragraph 2; discloses that the apparatus can be used in a medical system) comprising:

an installed computed tomography apparatus comprising a plurality of installation components that permanently install said computed tomography apparatus at an installation site, and a control unit that operates the computed tomography apparatus (Figure 2, paragraphs 30-34; discloses that the medical imaging apparatus or computer comprises a plurality of permanently installed components where permanently installed

refers to a component that is not easily removed, these components are RAM, CPU, ROM, HDD or hard drive with corresponding software. These components include a control unit which as described in the applicant's specification page 3, line 17, is the unit which allows communication with the remote location for servicing and maintenance, in this case the control unit is a combination of the software located on the computer and the network interface that allows the computer to communicate with the remote location, Page 2, paragraph [0030]; discloses that the gantry is one unit attached to an X-ray device which the Examiner is construing to be a mounted imaging scanner the Gantry is also connected to an operating console. Page 2, paragraph [0027]; discloses that only example of the system includes a CT system or Computed Tomography, but could also refer to a MRI system or other products or systems);

a remote access interface connected to the control unit configured to allow the control unit to communicate with a remote location for remote servicing of the computed tomography apparatus (Fig. 2, character 10, paragraph 34; discloses the remote access interface. Page 2, paragraph [0018]; discloses that the purposes of this is to allow for remote site management capable of providing timely and efficient maintenance services even when a system includes machines that are not covered by maintenance services);

a device separate from the control unit configured for temporary connection to said control unit for temporary operation in combination with said installed computed tomography apparatus, said device comprising an interface (Fig. 1, character 103, paragraph 30; discloses the external device in this example case it is a gantry apparatus. Figure 2; discloses that the gantry apparatus has an interface to connect

with the imaging apparatus. Page 3, paragraphs 41 and 42; discloses that the gantry apparatus is shown in the reference to be a separate device apart from the computer or operation console and can even be purchased from a separate vendor. From this it is shown that the external device or gantry apparatus is not one of the core components of the computer, and is considered to be a completely separate device, but is still usable in combination with the installed medical imaging apparatus since it can be connected to the computer and used in conjunction with the computer. This connection is considered to be temporary since it can be disconnected and reconnected when the system is upgraded);

said control unit being configured to place said device in communication with said remote access interface, via said device interface, to allow remote servicing of said device from said remote location through said control unit of said computed tomography apparatus via said remote access interface and said device interface, only while said device is connected to said control unit (Fig. 2, characters 9 and 10; disclose the router or communication channel that allows communication from the external device and the remote location).

While Shiraishi discloses a CT system it is not explicit as to what additional components can be included in such a system such as a power contrast agent injector or similar peripheral device that will not be used every single time. Further while it does disclose allowing for the updating of the various devices it fails to disclose updating known peripheral devices such as a power contrast agent injector. Shiraishi further fails to explicitly disclose updating known peripheral devices and that said control unit

comprising security protection that isolates said power contrast agent injector from components of said installed computed tomography apparatus that are not involved in the remote servicing of the power contrast agent injector.

Fratt, which talks about contrast injectors, teaches that the external device used in a computed tomography system can be a power contrast agent injector (Paragraph 4, heading Fact 3; teaches that the market for CT power injectors is growing due to new applications and procedures such as CT angiography, cardiac CT and perfusion imaging and that the faster the scanners are the more precise the delivery of contrast agent must be, from this it would have been obvious to exchange the external device used in the system provided by Shiraishi with a power contrast agent injector since it is one of many devices that could be used in conjunction with this system and would have to be monitored to ensure proper care and maintenance is observed. As stated above the system of Shiraishi is merely an example of one type of system with basic components since the goal of Shiraishi is to "provide a remote site management system capable of providing timely and efficient maintenance services even when a system includes machines that are not covered by maintenance services" it would have been obvious to extend the coverage and services to known CT devices such as a power contrast agent injector).

Therefore from this teaching of Fratt, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by Shiraishi, with the use of power contrast agent injector in a CT system taught by Fratt, for the purpose of providing the users of the

system with the newest and most up to date equipment. Shiraishi also mentions that the system can comprise a plurality of machines and uses the gantry apparatus as an example, it would have been obvious to exchange the external device used in the system provided by Shiraishi with a power contrast agent injector since it is one of many devices that could be used in conjunction with this system and would have to be monitored to ensure proper care and maintenance is observed.

The combination of Shiraishi and Fratt fails to explicitly disclose updating known peripheral devices.

Fichtner, which talks about automatic update of camera firmware, teaches updating the firmware of device and a host system (Col. 2, lines 24-39; teach that firmware is updated automatically upon connecting the device to the host system. In turn this simplifies operation for the user while ensuring compatibility between the device and host software, the intent is to provide "bug" fixes, enhancements to algorithms, and update protocols. Col. 1, lines 38-43; teaches that it is old and well known to update firmware on devices manually, however this is inconvenient and may lead to errors caused by incompatible versions of firmware and host system software. It would have been obvious to include this automatic update of peripheral devices such as imaging devices, in the combination of Shiraishi and Fratt, since while Shiraishi fails to explicitly disclose a power contrast agent, in view of Fratt it would have been obvious that a power contrast agent be included in the CT system of Shiraishi and updating these devices would be crucial to maintain proper operation. As stated in Fichtner by

doing this automatically through the host device it ensures that the versions of the software are compatible and work properly together).

Therefore from this teaching of Fichtner, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by the combination of Shiraishi and Fratt, with the use of update of peripheral devices as taught by Fichtner, for the purpose of ensuring the compatibility of the host system and the peripheral devices. As stated in Fichtner by doing this automatically through the host device it ensures that the versions of the software are compatible and work properly together.

The combination of Shiraishi, Fratt and Fichtner fails to explicitly disclose that said control unit comprising security protection that isolates said power contrast agent injector from components of said installed computed tomography apparatus that are not involved in the remote servicing of the power contrast agent injector.

Alipour, which talks about monitoring computer devices remotely, teaches it is known for a control unit to comprise security protection that isolates attachments from the device itself which is not involved in the remote servicing (Page 1, paragraphs 4 and 5, and page 2, paragraph 2; teach that it is known to isolate attachments to a system for the purpose of remote servicing particularly to isolate problems and determine how to solve the problem. The reference states that the system can isolate the attachment while settings are changed and verify the attachment works accordingly thus allowing the system to function with older technology. It would have been obvious to include such a practice in the invention of Shiraishi, since both parts do not always come from



the same provider it would have been obvious to isolate an attachment from a different provider to ensure that it functions correctly and prevent possible problems with the rest of the system).

Therefore, from this teaching of Alipour, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by the combination of Shiraishi, Fratt and Fichtner, with the use of isolating attachments for remote servicing as taught by Alipour, for the purpose of allowing older technology to work with the system and ensure the system as a whole works properly as stated in Alipour. Since both Shiraishi and Alipour deal with remote monitoring and servicing of devices it would have been obvious to include the practices of Alipour in the invention of Shiraishi to help the system run with varying attachments with out worrying about disrupting the system as a whole.

**As per claim 4**, the combination of Shiraishi, Fratt, Fichtner, and Alipour teaches the above-enclosed invention, Alipour teaches the use of a device for security and that this device is made hardware (Page 1, paragraphs 4 and 5, and page 2, paragraph 2; teach that it is known to isolate attachments to a system for the purpose of remote servicing particularly to isolate problems and determine how to solve the problem. Page 1, paragraph 2; teaches that the device is special circuitry and can be built in or a separate monitoring card thus showing it is a hardware structure).

**As per claim 8**, Shiraishi discloses a method for remotely servicing an external device using in combination with an installed computed tomography apparatus that comprises a plurality of components that permanently install said computed tomography

apparatus at an installation site, and a control unit that operates the computed tomography apparatus (Paragraphs 1-4; disclose that the invention relates to a medical system and services external devices Figure 2, paragraphs 30-34; discloses that the medical imaging apparatus or computer comprises a plurality of permanently installed components where permanently installed refers to a component that is not easily removed, these components are RAM, CPU, ROM, HDD or hard drive with corresponding software. These components include a control unit which as described in the applicant's specification page 3, line 17, is the unit which allows communication with the remote location for servicing and maintenance, in this case the control unit is a combination of the software located on the computer and the network interface that allows the computer to communicate with the remote location. Fig. 1, character 103, paragraph 30; discloses the external device in this example case it is a gantry apparatus. Figure 2; discloses that the gantry apparatus has an interface to connect with the imaging apparatus. Page 3, paragraph 42; discloses that the gantry apparatus is shown in the reference to be a separate device apart from the computer or operation console and can even be purchased from a separate vendor. From this it is shown that the external device or gantry apparatus is not one of the core components of the computer, and is considered to be a completely separate device, but is still usable in combination with the installed medical imaging apparatus since it can be connected to the computer and used in conjunction with the computer. Page 2, paragraph [0030]; discloses that the gantry is one unit attached to an X-ray device which the Examiner is construing to be a mounted imaging scanner the Gantry is also connected to an

operating console. Page 2, paragraph [0027]; discloses that only example of the system includes a CT system or Computed Tomography, but could also refer to a MRI system or other products or systems), comprising the steps of:

providing said control unit of said computed tomography apparatus with remote access equipment allowing remote servicing of said installed computed tomography apparatus (Fig. 2, characters 9 and 10, paragraph 3; disclose that the system includes remote access equipment for allowing the remote servicing of the installed medical apparatus. Page 2, paragraph [0018]; discloses that the purposes of this is to allow for remote site management capable of providing timely and efficient maintenance services even when a system includes machines that are not covered by maintenance services);

removably connecting a device to said control unit of said computed tomography apparatus at said installation site to thereby also connecting said device to said remote access equipment in said control unit (Fig. 1, character 103, paragraph 30; discloses the external device in this example case it is a gantry apparatus. Figure 2; discloses that the gantry apparatus has an interface to connect with the imaging apparatus. Page 3, paragraphs 41 and 42; discloses that the gantry apparatus is shown in the reference to be a separate device apart from the computer or operation console and can even be purchased from a separate vendor. From this it is shown that the external device or gantry apparatus is not one of the core components of the computer, and is considered to be a completely separate device, but is still usable in combination with the installed medical imaging apparatus since it can be connected to the computer and used in

conjunction with the computer. This connection is considered to be temporary since it can be disconnected and reconnected when the system is upgraded); and

remotely servicing said device through said control unit and said remote access equipment of the installed computed tomography apparatus, only while said device is connected to said control unit (Fig. 2, characters 9, 10, and 103, paragraph 4; disclose that the external device is connected to the remote access equipment in the installed medical system and that the service provider is able to have access to this equipment to perform maintenance service).

While Shiraishi discloses a CT system it is not explicit as to what additional components can be included in such a system such as a power contrast agent injector or similar peripheral device that will not be used every single time. Further while it does disclose allowing for the updating of the various devices it fails to disclose updating known peripheral devices such as a power contrast agent injector. Shiraishi further fails to explicitly disclose updating known peripheral devices and that said control unit comprising security protection that isolates said power contrast agent injector from components of said installed computed tomography apparatus that are not involved in the remote servicing of the power contrast agent injector.

Frat, which talks about contrast injectors, teaches that the external device used in a computed tomography system can be a power contrast agent injector (Paragraph 4, heading Fact 3; teaches that the market for CT power injectors is growing due to new applications and procedures such as CT angiography, cardiac CT and perfusion imaging and that the faster the scanners are the more precise the delivery of contrast

agent must be, from this it would have been obvious to exchange the external device used in the system provided by Shiraishi with a power contrast agent injector since it is one of many devices that could be used in conjunction with this system and would have to be monitored to ensure proper care and maintenance is observed. As stated above the system of Shiraishi is merely an example of one type of system with basic components since the goal of Shiraishi is to "provide a remote site management system capable of providing timely and efficient maintenance services even when a system includes machines that are not covered by maintenance services" it would have been obvious to extend the coverage and services to known CT devices such as a power contrast agent injector).

Therefore from this teaching of Fratt, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by Shiraishi, with the use of power contrast agent injector in a CT system taught by Fratt, for the purpose of providing the users of the system with the newest and most up to date equipment. Shiraishi also mentions that the system can comprise a plurality of machines and uses the gantry apparatus as an example, it would have been obvious to exchange the external device used in the system provided by Shiraishi with a power contrast agent injector since it is one of many devices that could be used in conjunction with this system and would have to be monitored to ensure proper care and maintenance is observed.

The combination of Shiraishi and Fratt fails to explicitly disclose updating known peripheral devices.

Fichtner, which talks about automatic update of camera firmware, teaches updating the firmware of device and a host system (Col. 2, lines 24-39; teach that firmware is updated automatically upon connecting the device to the host system. In turn this simplifies operation for the user while ensuring compatibility between the device and host software, the intent is to provide "bug" fixes, enhancements to algorithms, and update protocols. Col. 1, lines 38-43; teaches that it is old and well known to update firmware on devices manually, however this is inconvenient and may lead to errors caused by incompatible versions of firmware and host system software. It would have been obvious to include this automatic update of peripheral devices such as imaging devices, in the combination of Shiraishi and Fratt, since while Shiraishi fails to explicitly disclose a power contrast agent, in view of Fratt it would have been obvious that a power contrast agent be included in the CT system of Shiraishi and updating these devices would be crucial to maintain proper operation. As stated in Fichtner by doing this automatically through the host device it ensures that the versions of the software are compatible and work properly together).

Therefore from this teaching of Fichtner, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by the combination of Shiraishi and Fratt, with the use of update of peripheral devices as taught by Fichtner, for the purpose of ensuring the compatibility of the host system and the peripheral devices. As stated in Fichtner by doing this automatically through the host device it ensures that the versions of the software are compatible and work properly together.

The combination of Shiraishi, Fratt and Fichtner fails to explicitly disclose that said control unit comprising security protection that isolates said power contrast agent injector from components of said installed computed tomography apparatus that are not involved in the remote servicing of the power contrast agent injector.

Alipour, which talks about monitoring computer devices remotely, teaches it is known for a control unit to comprise security protection that isolates attachments from the device itself which is not involved in the remote servicing (Page 1, paragraphs 4 and 5, and page 2, paragraph 2; teach that it is known to isolate attachments to a system for the purpose of remote servicing particularly to isolate problems and determine how to solve the problem. The reference states that the system can isolate the attachment while settings are changed and verify the attachment works accordingly thus allowing the system to function with older technology. It would have been obvious to include such a practice in the invention of Shiraishi, since both parts do not always come from the same provider it would have been obvious to isolate an attachment from a different provider to ensure that it functions correctly and prevent possible problems with the rest of the system).

Therefore, from this teaching of Alipour, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by the combination of Shiraishi, Fratt and Fichtner, with the use of isolating attachments for remote servicing as taught by Alipour, for the purpose of allowing older technology to work with the system and ensure the system as a whole works properly as stated in Alipour. Since both Shiraishi and Alipour deal with

remote monitoring and servicing of devices it would have been obvious to include the practices of Alipour in the invention of Shiraishi to help the system run with varying attachments with out worrying about disrupting the system as a whole.

**As per claim 11**, Shiraishi discloses a method for servicing a device used in combination with an installed computed tomography apparatus that comprises a plurality of components that permanently install said computed tomography apparatus at an installation site, and a control unit that operates the installed computed tomography apparatus (Paragraphs 1-4; disclose that the invention relates to a medical system and services external devices Figure 2, paragraphs 30-34; discloses that the medical imaging apparatus or computer comprises a plurality of permanently installed components where permanently installed refers to a component that is not easily removed, these components are RAM, CPU, ROM, HDD or hard drive with corresponding software. These components include a control unit which as described in the applicant's specification page 3, line 17, is the unit which allows communication with the remote location for servicing and maintenance, in this case the control unit is a combination of the software located on the computer and the network interface that allows the computer to communicate with the remote location. Fig. 1, character 103, paragraph 30; discloses the external device in this example case it is a gantry apparatus. Figure 2; discloses that the gantry apparatus has an interface to connect with the imaging apparatus. Page 3, paragraph 42; discloses that the gantry apparatus is shown in the reference to be a separate device apart from the computer or operation console and can even be purchased from a separate vendor. From this it is shown that



the external device or gantry apparatus is not one of the core components of the computer, and is considered to be a completely separate device, but is still usable in combination with the installed medical imaging apparatus since it can be connected to the computer and used in conjunction with the computer. Page 2, paragraph [0030]; discloses that the gantry is one unit attached to an X-ray device which the Examiner is construing to be a mounted imaging scanner the Gantry is also connected to an operating console. Page 2, paragraph [0027]; discloses that only example of the system includes a CT system or Computed Tomography, but could also refer to a MRI system or other products or systems), comprising the steps of:

establishing a communication link between said control unit of said installed computed tomography apparatus at said installation site and a service center remote from said installation site (Fig. 2, characters 9 and 10, paragraph 3; disclose that the system includes remote access equipment for allowing the remote servicing of the installed medical apparatus. Page 2, paragraph [0018]; discloses that the purposes of this is to allow for remote site management capable of providing timely and efficient maintenance services even when a system includes machines that are not covered by maintenance services. Fig. 1, paragraph 3; disclose there is a communication link between the installed medical device and a service apparatus);

via said communication link, remotely servicing said installed computed tomography apparatus from said service center (Paragraph 3; discloses that the communication link is used to remotely service the installed medical apparatus. Fig. 2, characters 9 and 10, paragraph 3; disclose that the system includes remote access

equipment for allowing the remote servicing of the installed medical apparatus. Page 2, paragraph [0018]; discloses that the purposes of this is to allow for remote site management capable of providing timely and efficient maintenance services even when a system includes machines that are not covered by maintenance services).

removably connecting said device agent injector to said control unit of said installed computed tomography apparatus and thereby routing said communication link through said control unit to said device (Fig. 1, character 103, paragraph 30; discloses the external device in this example case it is a gantry apparatus. Figure 2; discloses that the gantry apparatus has an interface to connect with the imaging apparatus. Page 3, paragraphs 41 and 42; discloses that the gantry apparatus is shown in the reference to be a separate device apart from the computer or operation console and can even be purchased from a separate vendor. From this it is shown that the external device or gantry apparatus is not one of the core components of the computer, and is considered to be a completely separate device, but is still usable in combination with the installed medical imaging apparatus since it can be connected to the computer and used in conjunction with the computer. This connection is considered to be temporary since it can be disconnected and reconnected when the system is upgraded); and

remotely servicing said device from said service center through said communication link routed through said control unit, only while said device injector is connected to said control unit (Fig. 2, characters 9, 10, and 103, paragraph 4; disclose that the external device is connected to the remote access equipment in the installed

medical system and that the service provider is able to have access to this equipment to perform maintenance service).

While Shiraishi discloses a CT system it is not explicit as to what additional components can be included in such a system such as a power contrast agent injector or similar peripheral device that will not be used every single time. Further while it does disclose allowing for the updating of the various devices it fails to disclose updating known peripheral devices such as a power contrast agent injector. Shiraishi further fails to explicitly disclose updating known peripheral devices and that said control unit comprising security protection that isolates said power contrast agent injector from components of said installed computed tomography apparatus that are not involved in the remote servicing of the power contrast agent injector.

Fratt, which talks about contrast injectors, teaches that the external device used in a computed tomography system can be a power contrast agent injector (Paragraph 4, heading Fact 3; teaches that the market for CT power injectors is growing due to new applications and procedures such as CT angiography, cardiac CT and perfusion imaging and that the faster the scanners are the more precise the delivery of contrast agent must be, from this it would have been obvious to exchange the external device used in the system provided by Shiraishi with a power contrast agent injector since it is one of many devices that could be used in conjunction with this system and would have to be monitored to ensure proper care and maintenance is observed. As stated above the system of Shiraishi is merely an example of one type of system with basic components since the goal of Shiraishi is to "provide a remote site management system

capable of providing timely and efficient maintenance services even when a system includes machines that are not covered by maintenance services” it would have been obvious to extend the coverage and services to known CT devices such as a power contrast agent injector).

Therefore from this teaching of Fratt, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by Shiraishi, with the use of power contrast agent injector in a CT system taught by Fratt, for the purpose of providing the users of the system with the newest and most up to date equipment. Shiraishi also mentions that the system can comprise a plurality of machines and uses the gantry apparatus as an example, it would have been obvious to exchange the external device used in the system provided by Shiraishi with a power contrast agent injector since it is one of many devices that could be used in conjunction with this system and would have to be monitored to ensure proper care and maintenance is observed.

The combination of Shiraishi and Fratt fails to explicitly disclose updating known peripheral devices.

Fichtner, which talks about automatic update of camera firmware, teaches updating the firmware of device and a host system (Col. 2, lines 24-39; teach that firmware is updated automatically upon connecting the device to the host system. In turn this simplifies operation for the user while ensuring compatibility between the device and host software, the intent is to provide “bug” fixes, enhancements to algorithms, and update protocols. Col. 1, lines 38-43; teaches that it is old and well

known to update firmware on devices manually, however this is inconvenient and may lead to errors caused by incompatible versions of firmware and host system software. It would have been obvious to include this automatic update of peripheral devices such as imaging devices, in the combination of Shiraishi and Fratt, since while Shiraishi fails to explicitly disclose a power contrast agent, in view of Fratt it would have been obvious that a power contrast agent be included in the CT system of Shiraishi and updating these devices would be crucial to maintain proper operation. As stated in Fichtner by doing this automatically through the host device it ensures that the versions of the software are compatible and work properly together).

Therefore from this teaching of Fichtner, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by the combination of Shiraishi and Fratt, with the use of update of peripheral devices as taught by Fichtner, for the purpose of ensuring the compatibility of the host system and the peripheral devices. As stated in Fichtner by doing this automatically through the host device it ensures that the versions of the software are compatible and work properly together.

The combination of Shiraishi, Fratt and Fichtner fails to explicitly disclose that said control unit comprising security protection that isolates said power contrast agent injector from components of said installed computed tomography apparatus that are not involved in the remote servicing of the power contrast agent injector.

Alipour, which talks about monitoring computer devices remotely, teaches it is known for a control unit to comprise security protection that isolates attachments from

the device itself which is not involved in the remote servicing (Page 1, paragraphs 4 and 5, and page 2, paragraph 2; teach that it is known to isolate attachments to a system for the purpose of remote servicing particularly to isolate problems and determine how to solve the problem. The reference states that the system can isolate the attachment while settings are changed and verify the attachment works accordingly thus allowing the system to function with older technology. It would have been obvious to include such a practice in the invention of Shiraishi, since both parts do not always come from the same provider it would have been obvious to isolate an attachment from a different provider to ensure that it functions correctly and prevent possible problems with the rest of the system).

Therefore, from this teaching of Alipour, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by the combination of Shiraishi, Fratt and Fichtner, with the use of isolating attachments for remote servicing as taught by Alipour, for the purpose of allowing older technology to work with the system and ensure the system as a whole works properly as stated in Alipour. Since both Shiraishi and Alipour deal with remote monitoring and servicing of devices it would have been obvious to include the practices of Alipour in the invention of Shiraishi to help the system run with varying attachments with out worrying about disrupting the system as a whole.

**As per claim 12**, Shiraishi discloses a method for charging for servicing of a device used in combination with an installed computed tomography apparatus that comprises a plurality of components that permanently install said computed tomography

apparatus at an installation site, and a control unit that operates the installed computed tomography apparatus (Paragraphs 1-4; disclose that the invention relates to a medical apparatus and services external devices Figure 2, paragraphs 30-34; discloses that the medical imaging apparatus or computer comprises a plurality of permanently installed components where permanently installed refers to a component that is not easily removed, these components are RAM, CPU, ROM, HDD or hard drive with corresponding software. These components include a control unit which as described in the applicant's specification page 3, line 17, is the unit which allows communication with the remote location for servicing and maintenance, in this case the control unit is a combination of the software located on the computer and the network interface that allows the computer to communicate with the remote location. Fig. 1, character 103, paragraph 30; discloses the external device in this example case it is a gantry apparatus. Figure 2; discloses that the gantry apparatus has an interface to connect with the imaging apparatus. Page 3, paragraph 42; discloses that the gantry apparatus is shown in the reference to be a separate device apart from the computer or operation console and can even be purchased from a separate vendor. From this it is shown that the external device or gantry apparatus is not one of the core components of the computer, and is considered to be a completely separate device, but is still usable in combination with the installed medical imaging apparatus since it can be connected to the computer and used in conjunction with the computer. Page 2, paragraph [0030]; discloses that the gantry is one unit attached to an X-ray device which the Examiner is construing to be a mounted imaging scanner the Gantry is also connected to an

operating console. Page 2, paragraph [0027]; discloses that only example of the system includes a CT system or Computed Tomography, but could also refer to a MRI system or other products or systems), comprising the steps of:

installing said computed tomography apparatus, manufactured by a first manufacturer, at said installation site (Fig. 1, paragraphs 1-4, 42; disclose the installing of medical apparatus manufactured by a first manufacturer);

providing said control unit of said installed computed tomography apparatus with remote access equipment allowing said control unit to communicate with a service center located remote from said installation site for remote servicing of said installed computed tomography apparatus (Fig. 2, characters 9 and 10, paragraph 3; disclose remote access equipment that allow the medical apparatus to communicate with a service center. Page 2, paragraph [0018]; discloses that the purposes of this is to allow for remote site management capable of providing timely and efficient maintenance services even when a system includes machines that are not covered by maintenance services. Fig. 1, paragraph 3; disclose there is a communication link between the installed medical device and a service apparatus);

removably connecting said device, manufactured by a second manufacturer, to said control unit and thereby establishing communication, through said remote access equipment of said control unit, between said device and said remote center, and thereby remotely servicing said device through said control unit, only which said device is connected to said control unit (Fig. 1, character 103, paragraph 30; discloses the external device in this example case it is a gantry apparatus. Figure 2; discloses that the



gantry apparatus has an interface to connect with the imaging apparatus. Page 3, paragraphs 41 and 42; discloses that the gantry apparatus is shown in the reference to be a separate device apart from the computer or operation console and can even be purchased from a separate vendor. From this it is shown that the external device or gantry apparatus is not one of the core components of the computer, and is considered to be a completely separate device, but is still usable in combination with the installed medical imaging apparatus since it can be connected to the computer and used in conjunction with the computer. This connection is considered to be temporary since it can be disconnected and reconnected when the system is upgraded. Fig. 2, characters 9, 10, and 103, paragraph 4; disclose that the external device is connected to the remote access equipment in the installed medical system and that the service provider is able to have access to this equipment to perform maintenance service) and

imposing a monetary charge from said first manufacturer to said second manufacturer dependent on said remote servicing of said device (Paragraph 2 and 58; disclose that the service provider imposes a monetary charge for a service contract and states that the contract is negotiated with the customer and checked before services are rendered).

Shiraishi fails to explicitly disclose wherein the imposing of the monetary charge is by said first manufacturer to said second manufacturer dependent on said remote servicing of said external device. The Examiner however asserts that it would have been obvious given the definition of the term contract (from [www.dictionary.com](http://www.dictionary.com) that's that a contract is an agreement between two or more parties for the doing or not doing

of something specified) that the first manufacturer would charge the second manufacturer for any services they agreed upon. The contract mentioned in paragraph 2 of Shiraishi states that the contract is between a customer since this is a maintenance agreement the manufacturer of the external device could have an agreement with the service provider that if services are performed on their device that they are to be charged the appropriate fee. The service provider mentioned in Shiraishi would need to have access to the component equipment and maintain this equipment to ensure that the entire system is working properly as mentioned in paragraph 4, and would not want to perform maintenance and updates to external devices that are not covered under the hospitals service agreement without having an agreement with the second vendor to get paid for services performed.

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to include imposing a charge to a second manufacturer of an external device in the system provided by Shiraishi, for the purpose of ensuring that the service provider is not doing maintenance and upgrades to parts of the system for free. The service provider mentioned in Shiraishi would need to have access to the component equipment and maintain this equipment to ensure that the entire system is working properly as mentioned in paragraph 4, and would not want to perform maintenance and updates to external devices that are not covered under the hospitals service agreement without having an agreement with the second vendor to get paid for services performed.

While Shiraishi discloses a CT system it is not explicit as to what additional components can be included in such a system such as a power contrast agent injector or similar peripheral device that will not be used every single time. Further while it does disclose allowing for the updating of the various devices it fails to disclose updating known peripheral devices such as a power contrast agent injector. Shiraishi further fails to explicitly disclose updating known peripheral devices and that said control unit comprising security protection that isolates said power contrast agent injector from components of said installed computed tomography apparatus that are not involved in the remote servicing of the power contrast agent injector.

Fratt, which talks about contrast injectors, teaches that the external device used in a computed tomography system can be a power contrast agent injector (Paragraph 4, heading Fact 3; teaches that the market for CT power injectors is growing due to new applications and procedures such as CT angiography, cardiac CT and perfusion imaging and that the faster the scanners are the more precise the delivery of contrast agent must be, from this it would have been obvious to exchange the external device used in the system provided by Shiraishi with a power contrast agent injector since it is one of many devices that could be used in conjunction with this system and would have to be monitored to ensure proper care and maintenance is observed. As stated above the system of Shiraishi is merely an example of one type of system with basic components since the goal of Shiraishi is to "provide a remote site management system capable of providing timely and efficient maintenance services even when a system includes machines that are not covered by maintenance services" it would have been

obvious to extend the coverage and services to known CT devices such as a power contrast agent injector).

Therefore from this teaching of Fratt, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by Shiraishi, with the use of power contrast agent injector in a CT system taught by Fratt, for the purpose of providing the users of the system with the newest and most up to date equipment. Shiraishi also mentions that the system can comprise a plurality of machines and uses the gantry apparatus as an example, it would have been obvious to exchange the external device used in the system provided by Shiraishi with a power contrast agent injector since it is one of many devices that could be used in conjunction with this system and would have to be monitored to ensure proper care and maintenance is observed.

The combination of Shiraishi and Fratt fails to explicitly disclose updating known peripheral devices.

Fichtner, which talks about automatic update of camera firmware, teaches updating the firmware of device and a host system (Col. 2, lines 24-39; teach that firmware is updated automatically upon connecting the device to the host system. In turn this simplifies operation for the user while ensuring compatibility between the device and host software, the intent is to provide "bug" fixes, enhancements to algorithms, and update protocols. Col. 1, lines 38-43; teaches that it is old and well known to update firmware on devices manually, however this is inconvenient and may lead to errors caused by incompatible versions of firmware and host system software. It

would have been obvious to include this automatic update of peripheral devices such as imaging devices, in the combination of Shiraishi and Fratt, since while Shiraishi fails to explicitly disclose a power contrast agent, in view of Fratt it would have been obvious that a power contrast agent be included in the CT system of Shiraishi and updating these devices would be crucial to maintain proper operation. As stated in Fichtner by doing this automatically through the host device it ensures that the versions of the software are compatible and work properly together).

Therefore from this teaching of Fichtner, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by the combination of Shiraishi and Fratt, with the use of update of peripheral devices as taught by Fichtner, for the purpose of ensuring the compatibility of the host system and the peripheral devices. As stated in Fichtner by doing this automatically through the host device it ensures that the versions of the software are compatible and work properly together.

The combination of Shiraishi, Fratt and Fichtner fails to explicitly disclose that said control unit comprising security protection that isolates said power contrast agent injector from components of said installed computed tomography apparatus that are not involved in the remote servicing of the power contrast agent injector.

Alipour, which talks about monitoring computer devices remotely, teaches it is known for a control unit to comprise security protection that isolates attachments from the device itself which is not involved in the remote servicing (Page 1, paragraphs 4 and 5, and page 2, paragraph 2; teach that it is known to isolate attachments to a system for

the purpose of remote servicing particularly to isolate problems and determine how to solve the problem. The reference states that the system can isolate the attachment while settings are changed and verify the attachment works accordingly thus allowing the system to function with older technology. It would have been obvious to include such a practice in the invention of Shiraishi, since both parts do not always come from the same provider it would have been obvious to isolate an attachment from a different provider to ensure that it functions correctly and prevent possible problems with the rest of the system).

Therefore, from this teaching of Alipour, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by the combination of Shiraishi, Fratt and Fichtner, with the use of isolating attachments for remote servicing as taught by Alipour, for the purpose of allowing older technology to work with the system and ensure the system as a whole works properly as stated in Alipour. Since both Shiraishi and Alipour deal with remote monitoring and servicing of devices it would have been obvious to include the practices of Alipour in the invention of Shiraishi to help the system run with varying attachments with out worrying about disrupting the system as a whole.

4. **Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US 2003/0050792), in view of Fratt, further in view of Fichtner et al. (US 6,360,362 B1) hereafter Fichtner, further in view of Alipour, further in view of Dell: [www.dell.com](http://www.dell.com) (June 10, 2002) hereafter Dell.**

**As per claim 5**, the combination of Shiraishi, Fratt, Fichtner, and Alipour, Alipour teaches the use of a device for security (Page 1, paragraphs 4 and 5, and page 2, paragraph 2; teach that it is known to isolate attachments to a system for the purpose of remote servicing particularly to isolate problems and determine how to solve the problem) but fails to explicitly disclose that the device is software.

Dell, which talks about components that can be installed in a system, teaches wherein said security protection comprises security software (Page 17, Under FireWall/Security/VPN, Page 19; teaches that firewalls can be in the form of software usable in a system).

Therefore from this teaching of Dell, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment that includes a firewall for security provided by the combination of Shiraishi, Fratt, Fichtner and Alipour, with the use of a software version of a firewall system taught by Dell, for the purpose of providing the user with an adequate security protection, with minimum change in the network setup and less over all cost. With a software firewall there is no need for extra hardware to be purchase or maintained just for the software to be installed on an existing system. In this situation the hardware found in Alipour can be replaced with software which will accomplish the same goal of isolating the attachment before it is determined to be working correctly thus providing security to the system and ensuring that the system as a whole is not effected.

5. **Claims 6, 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiraishi (US 2003/0050792), in view of Fratt, further in view of Fichtner et al. (US 6,360,362 B1) hereafter Fichtner further in view of Alipour, further in view of Dell.**

**As per claims 6, 7, 9 and 10**, the combination of Shiraishi, Fratt, Fichtner, Alipour discloses the above-enclosed invention, Shiraishi discloses having a remote access interface, but fails to explicitly disclose whether it is an original or retrofitted component.

However, the Examiner asserts that when constructing a network certain components are required, such as remote access interfaces. Dell teaches that it is old and well known to purchase network cards and modems as either original or retrofitted components for a system (Pages 3-14; teaches that there are many components that can be optional when setting up an original system Pages 7-8; teaches that remote management cards Network Adapter cards and modems are all optional equipment that can be purchased and installed when the system is originally built. Page 24; teaches that networking products such as network adapters and modems can be purchased after the original equipment is set up. Customers would rather have the equipment installed original if available because it saves them time and resources, since they would have to buy the products separately and have them installed. Although the option of retrofitting components is useful for systems that may not have a need for this hardware, for example if the service was not available or was thought to not have been useful at the time, this can save them money on the initial building of the system. As the



customer's needs change the equipment needs to be installed or upgraded. Even if the customer had a network adapter or modem installed in their original system they may have a desire at a future date to upgrade that equipment at a later date which advancements in hardware become available).

Therefore from this teaching of Dell, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the remote servicing of CT equipment provided by the combination of Shiraishi, Fratt and Fichtner, with the use of originally installed or retrofitted components taught by Dell, to provide their customers flexibility. Customers would rather have the equipment installed original if available because it saves them time and resources, since they would have to buy the products separately and have them installed. Although the option of retrofitting components is useful for systems that may not have a need for this hardware, for example if the service was not available or was thought to not have been useful at the time, this can save them money on the initial building of the system. As the customer's needs change the equipment needs to be installed or upgraded. Even if the customer had a network adapter or modem installed in their original system they may have a desire at a future date to upgrade that equipment at a later date which advancements in hardware become available.

### ***Response to Arguments***

6. Applicant's arguments filed July 9, 2010 have been fully considered but they are not persuasive.

7. In response to the applicant's argument that, "the Examiner has defined the gantry apparatus as being a mechanical component, and therefore there is no point to remotely connecting such a mechanical component, as an alleged "external device" to a router or server for remote servicing thereof. Remote servicing of the gantry is not a feasible concept, which is another reason why, as Applicant has also previously argued, those of ordinary skill would not consider the gantry apparatus to be an "external device" with regard to the overall computed tomography apparatus," the Examiner respectfully disagrees. As stated in the above rejection the system of Shiraishi, page 3, paragraphs 41 and 42, discloses that the operation console and the gantry are considered to be two separate devices and can even be purchased by separate vendors. Therefore the connection between them is **not** permanent since the operation console or the gantry can be replaced or changed out. Therefore the gantry is **not always** connected to those components as suggested by the applicant. Furthermore as stated in Shiraishi, "It will be easily recongnized that the X-ray CT system is an exemplary product, and the present invention may be applied to other system products (e.g., an MRI system)." From this one of ordinary skill in the art would have realized that the invention of Shiraishi is not limited to only a console and a gantry apparatus but rather can be applied to various devices, since as stated in Shiraishi the goal is to "provide a remote site management system capable of providing timely and efficient maintenance services even when a system includes **machines** that are not covered by maintenance services". From this it is clear that the example of Shiraishi is to show two separate and distinct machines in this case the console and the gantry both of which

need to be maintenance and both of which can be provided service through the invention of Shiraishi. The Examiner asserts that in view of the invention of Shiraishi it would have been obvious to connect any number of different system products (as mentioned in Shiraishi) to accomplish the goal of remotely servicing separate devices that possibly can be provided from separate vendors (also as stated in Shiraishi) therefore, it would have been clear the example does in fact show an "external device" since both the console and the gantry are considered to be separate and distinct machines, and both require to be serviced. From this the Examiner asserts that one of ordinary skill would in fact consider the gantry to be an external device and a device that require maintenance and service as stated in the Shiraishi reference. While the device may have mechanical components it is not purely mechanical and thus as stated in Shiraishi would require remote servicing and maintenance. Since the applicant has merely alleged that the device is not an "external device" and provided no evidence of such the Examiner asserts that the references read over the claims as currently written and the rejections have been maintained.

8. In response to the applicant's argument that, "In the Fichtner et al. reference, updating is undertaken by connecting the camera to a computer, but the Fichtner et al. reference does not relate to a medical system, and does not disclose a system having an "external device" as set forth in the claims," the Examiner respectfully disagrees. While the camera is not a medical camera, the concept of remotely updating a piece of hardware by connecting it to another piece of hardware is analogous and directly relates to the invention. The process described in Fichtner would function the same regardless

of what area of computing it is used in thus, it reads over the claims as currently written. Therefore the rejections have been maintained.

9. In response to the applicant's argument that, "This combination is pure speculation and has only been constructed after the Examiner has had the advantage of first reading Applicant's disclosure. There is nothing whatsoever in the references themselves to suggest or motivate a person of ordinary skill designing computed tomography systems to arrive at such a combination," the Examiner respectfully disagrees. As stated above Shiraishi is directed toward "providing timely and efficient maintenance services even when a system includes machines that are not covered by maintenance services," and that "It will be easily recognized that the X-ray CT system is an exemplary product, and the present invention may be applied to other system products", thus showing that the goal is to provide service to machines which are connected but separate. When combined with Fratt it shows that power contrast agent injectors are known products and obvious could be connected in a similar manner to perform services remotely. This motivation is found Shiraishi since it states that other products would have been obvious in view of the disclosure. When combined with Fichtner it would have been obvious that connecting devices to a computer such as the one found Shiraishi that it is known to update the firmware found on the device. Fichtner states that this is done to provide updates to the product and is particularly usefully what different products are also connected to the computing device. From this the motivation is found in the secondary reference Fichtner which shows by performing this updates they products are kept up to date and achieve maximum functionality. The new

reference which is cited to show the new limitations show when connecting devices such as the devices mentioned in Fichtner it is known to isolate the device, and this is done to verify the device operates accordingly and helps the controlling device work with older technology as seen in Schiraishi when one machine is replaced, by doing the isolation the system ensures that the new device is added with out damage to the over all system. From this the Examiner asserts that the references when properly combined read over the claims as currently written and the motivation for combining the references is found in the references themselves. Therefore the rejections have been maintained.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

10. In response to the applicant's arguments regarding the new claim limitations found in claim 1 and 4-12 they have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **PAUL FISHER** whose telephone number is (571)270-5097. The examiner can normally be reached on Mon/Fri [8am/4:30pm].

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Janice Mooneyham can be reached on (571) 272-6805. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. R. F./  
Examiner, Art Unit 3689

/Dennis Ruhl/

Primary Examiner, Art Unit 3689